

ABSTRACT

Ovary-specific proteins O1-180, O1-184 and O1-236, polynucleotides encoding them, antibodies which are immunoreactive with them and vectors and host cells containing O1-180, O1-184 or O1-236 and transgenic mice comprising disruptions of those genes are provided. Also provided are methods for detecting cell proliferative or degenerative disorders of ovarian origin and which are associated with O1-180, O1-184 or O1-236 and for creating transgenic mice comprising disruptions of those genes. Further provided are methods for the evaluation of potential contraceptives using the proteins of the invention, as well as methods for the screening for genetic mutations in signaling pathways that are associated with some forms of human infertility or gynecological cancers, also using the proteins/mRNAs/genes of the invention. The proteins/mRNAs/genes of the invention may also be used as markers for identifying primary and metastatic neoplasms of ovarian origin and as indicators of developmental anomalies in prenatal screening procedures. Furthermore, assays of the proteins/mRNAs/genes of the invention can be used in diagnostic assays for detecting forms of infertility and other diseases, including germ cell tumors and polycystic ovary syndrome. The proteins of the invention may be useful targets for *in vitro* fertilization procedures or in enhancing the number of eggs that can be retrieved from the human donor, *e.g.*, in enhancing the success rate.